

## **REMARKS / ARGUMENTS**

In complete response to the Office Action dated January 2, 2008, on the above identified application, reconsideration is respectfully requested.

### **Claim Rejections Under 35 U.S.C. § 102**

In the January 2, 2008 Office Action, the Examiner rejected claims 37-39 under 35 U.S.C. 102(b) as anticipated by Smith. Applicants respectfully traverse because Smith fails to disclose each and every limitation in the claims as amended, particularly at least one oxidation promoter element comprising a substrate with a coating material disposed thereon, wherein the coating material includes an oxidation promoter that promotes oxidation of the sodium sulfide in the pulping liquor to generate polysulfide, and the substrate is rotatably secured to a support member to facilitate movement of the substrate between a polysulfide generation zone and a recovery zone. Thus, the rejection should be withdrawn.

### **Claim Rejections Under 35 U.S.C. § 103**

In the January 2, 2008 Office Action, the Examiner rejected claims 1-7, 11-16, 18-29, and 34 under 35 U.S.C. 103(a) as obvious over Smith for the reasons of record.

**With particular respect to claims 1-7, 11-13, 19-23, 26-29, and 34,** Applicants respectfully traverse because the record does not contain reasons for rejection of these claims under 35 U.S.C. 103(a) as obvious over Smith. They kindly point out that, in the April 5, 2007 Office Action, only claims 10, 14-18, and 24-25 were rejected under 35 U.S.C. 103(a) over Smith alone. As such, the Examiner has failed to comply with the requirements of Graham vs. Deere in providing a legally sufficient rejection under 35 U.S.C. 103(a) as to these claims. Thus, the rejection of claims 1-7, 11-13, 19-23, 26-29, and 34 should be withdrawn for this reason alone.

**With particular respect to claims 1-7, 11-16, and 18-29, and 34,** Smith fails to disclose, teach or suggest each and every limitation of the claims, including preparation of at least one oxidation promoter element by: i) coating at least a portion of a substrate with a coating material such that one side of the coating material is adjacent the

substrate and an opposite side of the coating is not exposed to the substrate; and ii) applying an oxidation promoter to the opposite side of the coating such that the oxidation promoter is adhered by the coating material to the substrate. In the April 5, 2007 Office Action, the Examiner pointed to columns 9-10, column 17, lines 59-62, and claim 1 of Smith as disclosing the the subject matter of claims 1-7, 11-13, and 19-23. Applicants respectfully disagree with the Examiner's construction of that portion of Smith. Generally speaking, Smith discloses catalyst materials and their treatment at columns 9-10. To the extent that it addresses the issue of a catalyst, substrate, and other material associated with the catalyst and substrate, it discloses eight categories of physical arrangements for a catalyst:

- 1) a porous nickel substrate with powdered platinum covered by powdered carbon and wetproofing agent all one onside of the nickel substrate (column 9, lines 51-54);
- 2) a porous carbon plate or tube wetproofed to prevent flooding (column 9, lines 56-57) wherein the carbon is wetproofed by mixing an emulsion or solution of one or more various materials mixed with particulate carbon followed by evaporation of the emulsion vehicle or the solvent (column 9, line 64 through column 10, line 6);
- 3) a mass of wetproofed carbon granules or powder which float on the surface of the reductant (column 9, lines 57-58) wherein the carbon is wetproofed by mixing an emulsion or solution of one or more various materials mixed with particulate carbon followed by evaporation of the emulsion vehicle or the solvent (column 9, line 64 through column 10, line 6);
- 4) a bed of catalyst particles of depth greater than the capillary rise of the reductant supported so as to be in contact with the surface of the reductant (column 9, lines 59-62);
- 5) subliming a chlorinated paraxylylene dimer in a vacuum chamber and depositing the vapors on materials such as particulate carbon and porous sintered nickel (column 10, lines 27-31)

- 6) wetting a matrix of finely divided platinum in asbestos with a 1% solution of polyethylene in toluene followed by evaporation of the toluene (column 10, lines 32-37);
- 7) dissolving paraffin in a solvent such as hexane, toluene, or cetyl alcohol, introducing carbon into the mixture, and heating to evaporate the solvent (column 10, lines 38-43); or
- 8) mixing carbon with any one of paratoluene sulfonamide, polydichlorodifluoroethylene and octadecyl amine followed by heating to adhere it to the carbon (column 10, lines 44-48).

Applicants note that only physical arrangement 1 and 6 involve three materials as required by claims 1-7, 11-16, and 18-29, and 34. All other disclosed physical arrangements involve the catalyst and only one other material.

Applicants respectfully assert that physical arrangement 1 is not a disclosure, suggestion or teaching of the subject matter of claims 1-7, 11-13, 19-23, 26-29, and 34, because the wetproofing agent would have two surfaces, one of which is adjacent either powdered carbon, powdered platinum or porous nickel substrate, and the other of which is adjacent the surrounding process environment. In other words, it does not result in a structure having, in order, substrate, coating material, and oxidation promoter. Rather, it results in a structure having, in order, of either: i) porous nickel substrate/powdered platinum/powdered carbon/waterproofing agent with one side of the waterproofing agent coating exposed to the process environment, ii) porous nickel substrate/powdered carbon/waterproofing agent with one side of the waterproofing agent coating exposed to the process environment, or porous nickel substrate/powdered platinum/waterproofing agent with one side of the waterproofing agent coating exposed to the process environment. Each of these four Smith configurations i-iv is accomplished for the purpose of reducing the tendency of the catalyst to flood out with the process solution (see column 5, lines 23-33 and 65-66; column 6, lines 52-56; and column 8, lines 38-49; column 8, line 59 through column 9, line 13; and column 13, lines 15-17). On the other hand, the coating material used in the present invention is for the purpose of adhering the oxidation promoter to the substrate.

Applicants also assert that physical arrangement 6 is not a disclosure, suggestion or teaching of the subject matter of claims 1-7, 11-16, and 18-29, and 34 because the dried polyethylene coating would have two surfaces, one of which is adjacent either an asbestos particle or a platinum particle, and the other of which is adjacent the surrounding process environment. In other words, it does not result in a structure having, in order, of substrate, coating material, and oxidation promoter. Rather, it results in a structure having, in order, of either: i) asbestos particle/platinum particle/polyethylene with one side of the polyethylene coating exposed to the process environment, ii) platinum particle/asbestos particle/polyethylene with one side of the polyethylene coating exposed to the process environment, iii) asbestos particle/polyethylene with one side of the polyethylene coating exposed to the process environment, or iv) platinum particle/polyethylene with one side of the polyethylene coating exposed to the process environment. Each of these four Smith configurations i-iv is accomplished for the purpose of reducing the tendency of the catalyst to flood out with the process solution (see column 5, lines 23-33 and 65-66; column 6, lines 52-56; and column 8, lines 38-49; column 8, line 59 through column 9, line 13; and column 13, lines 15-17). On the other hand, the coating material used in the present invention is for the purpose of adhering the oxidation promoter to the substrate.

As such, neither of physical arrangements 1 and 6 constitutes a disclosure, suggestion or teaching of the claimed subject matter and the Examiner has not provided a logical rationale as to why the claimed structure is obvious over the teachings of Smith. Thus, the rejections of claims 1-7, 11-16, 18-29, and 34 should be withdrawn for the above reasons.

In the January 2, 2008 Office Action, the Examiner took the position that Applicants argued that the claims required that the entire surface of the coating layer be covered by the oxidation promoter. Applicants did not intend to argue that the claims required this. Applicants regret the poor word choice of "sandwich" and hereby expressly withdraw their remarks regarding a sandwich structure. So, in no way have Applicants previously argued, nor do they argue now, that the entire surface of the coating layer must be covered by the oxidation promoter. Applicants have clarified their

argument in the immediately preceding paragraph where the Examiner will note that no argument regarding a sandwich structure is included.

**With particular respect to claim 14**, Smith fails to disclose, teach, or suggest a step of fixing the at least one oxidizing promoter element to the vessel.

**With particular respect to claim 15**, Smith fails to disclose, teach, or suggest a step of positioning the at least one oxidizing promoter element at a bottom of the at least one vessel.

**With particular respect to claim 16**, Smith fails to disclose, teach, or suggest a step of positioning the at least one oxidizing promoter element in the at least one vessel such that the at least one oxidizing promoter element is mobile in the at least one vessel. The Examiner's reliance on case law is noted. However, Applicants kindly request that the Examiner provide cites to such case law so that Applicants can adequately respond.

**With particular respect to claims 18, 24, and 25**, Smith fails to disclose, teach, or suggest:

- rotating the substrate within the vessel (18)
- at least one oxidizing agent contacted with at least one oxidation promoter element when the at least one oxidation promoter element is in minimal or no contact with pulping liquor, and the pulping liquor is contacted with the at least one oxidation promoter element when the at least one oxidation promoter element is in minimal or no contact with the at least one oxidizing agent (24)
- at least one vessel comprising a first vessel including a first oxidation promoter element and a second vessel including a second oxidation promoter element, wherein: pulping liquor is provided to the first vessel to facilitate polysulfide production within the first vessel when the second vessel is provided with at least one oxidizing agent to increase the oxidized state of the second oxidation promoter element; and pulping liquor is provided to the second vessel to facilitate polysulfide production within the second vessel when the first vessel is provided with the at least one oxidizing agent to increase the oxidized state of the first oxidation promoter element (25)

The Examiner's reliance on uncited case law for the rejection of these claims is noted. However, Applicants kindly request that the Examiner provide cites to such case law so that Applicants can adequately respond.

**Additional Claim Rejections Under 35 U.S.C. § 103**

In the January 2, 2008 Office Action, the Examiner also rejected **claims 30-33, 36, and 40-56** were rejected under 35 U.S.C. 103(a) over Smith in view of U.S. Patent No. 5,082,526 (Dorris).

**With respect to claims 30-33, and 36 in particular**, Applicants respectfully traverse because Smith fails to disclose all of the claim limitations as argued with regard to claim 28 above and Dorris fails to cure those deficiencies, namely: preparation of at least one oxidation promoter element by: i) coating at least a portion of a substrate with a coating material such that one side of the coating material is adjacent the substrate and an opposite side of the coating is not exposed to the substrate; and ii) applying an oxidation promoter to the opposite side of the coating such that the oxidation promoter is adhered by the coating material to the substrate. The rejection of claims 30-33 and 36 should be withdrawn for this reason alone.

**With respect to claim 32 in particular**, Applicants traverse because Dorris fails to disclose, teach or suggest all of the claim limitations. While the Examiner points to Figures 2-3, the Abstract, and claims 1-13 with regard to a stirrer, the Examiner does not address the limitations introduced by claim 32, namely: at least one oxidizing agent and a conduit for receiving at least one oxidizing agent, one end of the conduit fluidly communicating with the vessel, and the hollow shaft having a first aperture adjacent an upper end of the shaft and a second aperture adjacent a lower end of the shaft so as to allow the at least one oxidizing agent to flow through the first aperture and exit through the second aperture. The rejection of claims 40-56 should be withdrawn for this reason alone.

**With respect to claim 33 in particular**, Applicants traverse because Dorris fails to disclose, teach or suggest all of the claim limitations. While the Examiner points to Figures 2-3, the Abstract, and claims 1-13 with regard to a stirrer, the Examiner does not address the limitations introduced by claim 33, namely: first and second vessels, the

at least one oxidation promoter element comprises a first oxidation promoter element positioned within the first vessel and a second oxidation promoter element positioned within the second vessel, and the system is configured to provide pulping liquor to the first vessel when the second vessel contains the at least one oxidizing agent and provide pulping liquor to the second vessel when the first vessel contains or receives the pulping liquor. The rejection of claims 40-56 should be withdrawn for this reason alone.

**With respect to claims 40-56 in particular**, the Examiner has failed to provide a prima facie case because none of the claim limitations of these claims have been addressed. The rejection of claims 40-56 should be withdrawn for this reason alone.

## CONCLUSION

Should the Examiner believe an additional telephone call would expedite prosecution of the application, the Examiner is invited to call the undersigned attorney at the number listed below. A Petition for a One Month Extension of Time and a Request for Continued Examination are being contemporaneously submitted with this Amendment along with the associated fees. Otherwise, it is believed that no fee is due at this time. If that belief is incorrect, please debit deposit account number 01-1375. Also, the Commissioner is authorized to credit any overpayment to deposit account number 01-1375.

Respectfully submitted,

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